

REMARKS/ARGUMENTS

Claims 1-23 are active.

The claimed invention is directed to a composition as described in Claim 1 and claims dependent thereon, containing inorganic oxidic powders having a size as small as a nanometer range which is compatible with and useful for incorporating the powders into alkoxysilane formulations and products. The claimed invention also provides a process for preparing the formulation.

Applicants have described the claimed formulation as follows (page 2, beginning at line 9):

Systems obtained in this way are generally clear, transparent to opalescent, **readily pourable liquids** having a comparatively low viscosity and a hitherto unknown, extremely high solids content.

Furthermore, formulations of the invention advantageously can be diluted as desired with an organic solvent or solvent mixtures, e.g., alcohols or esters.

In addition, systems of the invention are substantially **storage-stable liquids** having a storage stability of in general from 6 to 12 months at room temperature.

Applicants again submit that no such formulation is disclosed or suggested by the cited references.

The rejection of Claims 1-14 and 16-23 under 35 U.S.C. 103(a) over Mehnert et al. (U.S. 2003/0008974 equivalent to U.S. 6,830,816) is respectfully traversed.

Mehnert describes a composition containing a **capsule of a metal oxide core and a silico-organic shell in a synthetic resin** (Claim 1). Mehnert describes the composition as a paste (see for example, Col 5, lines 42 and 59). Nowhere does Mehnert describe a composition being a liquid dispersion having a viscosity of less than 1500 mPa·s. Mehnert describes only hybrid capsules wherein an organosilica shell is formed on an inorganic oxide core in the presence of a synthetic resin.

Mehnert describes that the reaction to prepare the described paste composition having good homogeneity requires special equipment which can handle a paste (Col. 5, lines 27-38) and further describes the equipment as follows (Col. 9, lines 1-6):

In the present invention, kneading machines are to be understood as processing units which, besides the usual mixing effect, have a kneading effect and possibly an additional dispersing effect, or in other words effects that contribute to homogenization of the highly filled synthetic resin mass.

Applicants submit that one of ordinary skill in the art recognizes that the resin composition described by Mehnert is not a pourable liquid as is the claimed formulation, and cannot have a viscosity of less than 1500 mPa·s, as according to the claimed invention.

The Office alleges that “Since the composition requirements are met the “solvent” requirements of the silane component are inherently met.” (Official Action dated February 7, 2011, page 3, lines 4-6). The Office then alleges that dilution of the Mehnert paste inherently forms the dispersions of the invention (Official Action dated February 7, 2011, page 3, lines 16-20).

Applicants disagree and note that a careful reading of the description cited by the Office (Col. 5, lines 49-55) indicates that Mehnert describes dilution of the paste with an acrylate to obtain a lacquer system. This description is further developed in the same column beginning at line 63 and continuing to Col. 6.

In view of all the above, Applicants submit that the cited reference does not describe a liquid dispersion having a viscosity of less than 1500 mPa·s, wherein the composition contains at least one organoalkoxysilane and/or at least one organoalkoxysiloxane solvent.

Accordingly, Applicants submit that this cited reference does not make all the elements of the claimed invention known and cannot render the invention obvious.

Applicants respectfully request that the rejection of Claims 1-14 and 16-23 under 35 U.S.C. 103(a) over Mehnert be withdrawn.

The rejection of Claims 1-23 under 35 U.S.C. 103(a) over Edelmann et al. (U.S. 2002/0197457 or U.S. 6,699,586) is respectfully traversed.

Edelmann describes an organosilicon system containing nanoscale and/or microscale oxidic particles having an **organosilicon shell** which is **formulated in a synthetic resin** (Abstract). Edelmann describes the following (Col. 3, lines 11-15):

Furthermore, the present process produces oxide particles with a substantially **complete and multilayer organosilicon shell**, i.e., cores A which, directly and advantageously, are obtained in finely dispersed form **in a curable synthetic resin or precursor of a curable synthetic resin**. . .

Nowhere does Edelmann describe a composition being a liquid dispersion having at least one organoalkoxysilane and/or at least one organoalkoxysiloxane as a **solvent** and having a viscosity of less than 1500 mPa·s.

Applicants submit that as described in Examples 1-8 of the reference, metal oxide particles are mixed into a heated resin composition containing an alkylalkoxysilane over a course of one hour and then stirring at temperature continued another hour. Reaction to form the shell is recognized because the formed alcohol is distilled off. Nowhere does this reference disclose or suggest the composition according to the present invention comprising at least one inorganic oxidic powder in at least one organoalkoxysilane and/or at least one organoalkoxysiloxane solvent.

The Office alleges that since the silane composition is met. The solvent properties are inherently met (Official Action dated February 7, 2011, page 6, last two lines). Applicants disagree and point to the description of the examples described above. According to that description the metal oxide particles are slowly added to a mixture of acrylate resin containing organoalkoxysilane. The organoalkoxysilane reacts with the added metal oxide to form the core-shell structure as indicated by the formation of alcohol which is removed. Accordingly, Applicants submit that even the reaction mixture described in the cited reference cannot be a liquid dispersion as according to the present invention.

Therefore, this reference does not make all the claimed elements of the present invention known and a conclusion of obviousness cannot be supported. Accordingly Applicants respectfully request that the rejection of Claims 1-23 under 35 U.S.C. 103(a) over Edelmann be withdrawn.

The rejection of Claims 15 and 19 under 35 U.S.C. 103(a) over Mehnert in view of Hardman et al. (U.S. 4,329,273) is respectfully traversed.

Applicants note that the failure of Mehnert to disclose or suggest a composition being a dispersion of at least one inorganic oxidic powder in at least one organoalkoxysilane and/or at least one organoalkoxysiloxane as a **solvent** as according to the present invention is described above. Claims 15 and 19 depend from Claim 10 and therefore include all the description of the independent claim.

Hardman describes an elastomeric silicone rubber composition retained in two parts (see Col. 14, lines 34 to Col. 15, line 5) containing a vinyl-terminated polysiloxane polymer, a hydride siloxane cross-linking agent, a platinum catalyst and a partial hydrolysis product of an aliphatically unsaturated hydrolysable alkoxy silane (Abstract). The Office cites the secondary reference to show use of a specific content of water in siloxane hydrolysis. However, Applicants submit that the description of Hardman is directed to preparation of a vinyl-terminated siloxane of specific molecular weight and degree and extent of polymerization (see Col. 4, lines 32 to 48) for performance in a self-bonding formulation. Nowhere does this reference disclose or suggest formation of a core-shell capsule as described by Mehnert. Therefore, Applicants submit that the two references are directed to different technologies having different problems and one of ordinary skill in the art would not look to the description of Hardman to address a problem in formation of core-shell capsules.

Further, Applicants submit that nowhere does Hardman disclose or suggest a composition being a liquid dispersion having at least one organoalkoxysilane and/or at least

Application No. 10/563,022
Reply to Office Action of February 7, 2011

one organoalkoxysiloxane as a solvent. Therefore, Applicants submit that the combined descriptions of the cited secondary reference and Mehnert does not make all the elements of the invention known, and a conclusion of obviousness over the cited reference combination cannot be supported. Accordingly, Applicants respectfully request that the rejection of Claims 15 and 19 under 35 U.S.C. 103(a) over Mehnert in view of Hardman be withdrawn.

The rejection of Claims 1-23 on the ground of non-statutory obviousness-type double patenting over Mehnert in view of Hardman is respectfully traversed.

Applicants have described that this combination of references does not disclose or suggest a formulation according to the invention containing (i) at least one organoalkoxysilane and/or at least one organoalkoxysiloxane **solvent**. Moreover, Applicants have described that the two references are directed to different nonanalogous technologies and that one of ordinary skill in the art would not look to one to solve a problem in the other. Accordingly, the cited combination cannot disclose or suggest all the claimed elements and cannot render the present invention obvious. Applicants respectfully request that the rejection of Claims 1-23 on the ground of non-statutory obviousness-type double patenting over Mehnert in view of Hardman be withdrawn.

The rejection of Claims 1-23 on the ground of non-statutory obviousness-type double patenting over Edelmann is respectfully traversed.

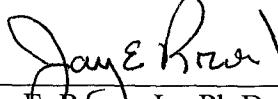
Applicants have described above that this reference does not disclose or suggest a formulation according to the invention containing (i) at least one organoalkoxysilane and/or at least one organoalkoxysiloxane solvent. Accordingly, the cited reference does not disclose or suggest all the claimed elements and cannot render the present invention obvious. Applicants respectfully request that the rejection of Claims 1-23 on the ground of non-statutory obviousness-type double patenting over Edelmann be withdrawn.

Application No. 10/563,022
Reply to Office Action of February 7, 2011

Applicants respectfully submit that the above-identified application is now in condition for allowance and early notice of such action is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, L.L.P.



Jay E. Rowe, Jr., Ph.D.
Registration No. 58,948

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 07/09)